Shaughnessy No.: 126101

Date Out of EAB: SEP - 7 1988

TO: Kerry B. Leifer, PM Team 45
Registration Division (TS-767C)

FROM: Emil Regelman, Supervisory Chemist
Environmental Chemistry Review Section II
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (TS-769C)

THRU: Paul F. Schuda, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (TS-769C)

Attached, please find the EAB review of...

Reg./File #: 7E 03489

Chemical Name: 4(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine

Type Product: herbicide safener (inert)

Product Name: CGA-154281

Company Name: Ciba-Geigy

Purpose: Amended report on adsorption/desorption constants

Date Received: 5-25-88 Action Code: 212

Date Completed: 9-2-88 EAB # (s): 80793

Monitoring Study Requested: _____ Total Reviewing time: 1.5 days

Monitoring Study Volunteered: _____

Deferrals to:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

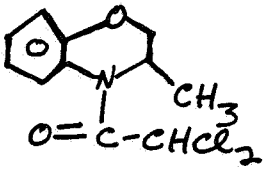
I. CHEMICAL:

Common name: none available

Chemical name: 4(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine

Trade name(s): CGA-154281

Structure:



Physical/Chemical properties:

Empirical formula: $C_{12}H_{10}ONCl_2$
Molecular weight: 254

II. STUDY/ACTION TYPE: Review of supplemental data for previously reviewed mobility study.

III. STUDY CITATIONS:

Spare, W. C., 1987. A supplement to the determination of adsorption/desorption constants of ^{14}C-CGA-154281. Submitted by Ciba-Geigy Corp., Greensboro, NC. (MRID 40629103)

IV. REVIEWED BY:

A. Reiter, Chemist
Environmental Chemistry Review Section II
EFGWB/EFED/OPP Date: September 6, 1988

V. APPROVED BY:

E. Regelman, Supervisory Chemist
Environmental Chemistry Review Section II
EFGWB/EFED/OPP Date: SEP - 7 1988

VI. CONCLUSIONS:

The material balances for the radiolabeled test material were satisfactory and ranged from 87-89%. Newly calculated K_d values for adsorption ranged from 0.2 to 4.6 in the four soils tested. K_d for desorption ranged from 0.7 to 8. Thus, this chemical may be considered to be mobile in all soils tested.

VII. RECOMMENDATIONS:

Based upon the revised calculations, this study satisfies the requirement for a mobility study on CGA-154281.

VIII. BACKGROUND:

A. Introduction

This compound is the first inert ingredient submitted to the Agency with environmental fate data. Acceptable studies have been received for hydrolysis, aerobic soil metabolism and anaerobic soil metabolism. A new aqueous photolysis study is in progress. The current submission was provided because a previously reviewed study was found by EAB (B. Conerly, 4/5/88) to be deficient in providing a material balance.

B. Directions for Use - not applicable (inert ingredient).

IX. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

Materials and Methods - provided in review of 4/5/88.

Reported Results

This submission includes recalculated values for the K_d, K_{oc} and n values reflecting a reassessment of the radiocarbon balance. Newly calculated K_d values for adsorption ranged from 0.2 to 4.6 in the four soils tested (see registrants's table, pg. 8 of 41). K_d for desorption ranged from 0.7 to 8. The material balances for the radiolabeled test material ranged from 87-89%.

There is a minor typographical error in the second paragraph on pg. 10 of the registrant's current submission. The K_d values ranging from 0.2 to 4.6 are for adsorption, not desorption.

Reviewer's Conclusions:

1. The recalculated results demonstrate a satisfactory material balance for this radiolabeled study.

2. This chemical may be considered to be mobile in all of the soils tested.

X. COMPLETION OF ONE-LINER: The one-liner has been updated with this submission.

XI. CBI APPENDIX: The registrant included a statement of no confidentiality claim.